

PATENT ABSTRACTS OF JAPAN

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(54) EARPHONE OF PLUG CODE WINDING TYPE

(57)Abstract:

PROBLEM TO BE SOLVED: To solve the problems that a conventional earphone of plug code winding type has caused troublesome handling because an earphone main body integrated with an microphone and a loudspeaker and a winder having a reel to wind up an earphone cord whose one end is connected to the earphone main body are manufactured to be separated components and has had a defect of a strong sense of incongruity because the earphone main body is inserted to an ear hole.

SOLUTION: The earphone of plug cord winding type of this inventions has a loudspeaker section in its earphone body and a winder for a plug cord whose tip has a plug for mobile phone connection, the winder winds up the plug cord and the earphone body uses a band or an ear hang hook to be mounted on the ear. Furthermore, a

microphone section is provided at the earphone body. Furthermore, a speech switch is provided at the earphone body.

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**CLAIMS**

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[Claim(s)]

[Claim 1] The plug code rolling-up type earphone characterized by to consist of the body of an earphone, the loudspeaker section prepared in this body of an earphone, the plug code which connected that end to this loudspeaker section, the plug for cellular-phone connection linked to the other end of this plug code, a take-up motion of the above-mentioned plug code which prepared in the above-mentioned body of an earphone, and a means for making it the above-mentioned body of an earphone located in a part for a handle part.

[Claim 2] The plug code rolling-up type earphone according to claim 1 characterized by being the lug credit hook by which a means to make it located in a part for a handle

part prepared the above-mentioned body of an earphone in the external surface of the above-mentioned body of an earphone.

[Claim 3] The plug code rolling-up type earphone according to claim 1 or 2 characterized by preparing the microphone section in the above-mentioned body of an earphone.

[Claim 4] The plug code rolling-up type earphone according to claim 1, 2, or 3 characterized by forming a message switch in the above-mentioned body of an earphone.

[Claim 5] The plug code rolling-up type earphone according to claim 2 or 3 characterized by consisting of the hollow disc-like section in which the above-mentioned body of an earphone contains the above-mentioned loudspeaker section and a take-up motion, and the lobe which projects from the periphery of the above-mentioned disc-like section which builds in the above-mentioned microphone section.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the plug code rolling-up type earphone it enabled it to hang on a lug while being able to roll round the plug code linked to a plug code rolling-up type earphone, especially a cellular phone.

[0002]

[Description of the Prior Art] The body of an earphone a microphone and whose loudspeaker of 1 drawing 8 shows the conventional earphone code rolling-up type earphone, and are one, The earphone code to which 2 connected the cellular phone to the above-mentioned body 1 of an earphone, and 3 connected the end, The plug code which connected the take-up motion which has the reel by which 4 rolls round the above-mentioned earphone code 3 to the interior, and 5 to the other end of the above-mentioned earphone code 3 extended from the above-mentioned take-up motion 4 to the method of outside, and 6 are the plugs for connecting with the cellular phone 2 formed in the other end of the above-mentioned plug code 5.

[0003] In the above-mentioned conventional earphone code rolling-up type earphone, when a cellular phone 2 was not used, the above-mentioned earphone code 3 was rolled round by the take up reel in the above-mentioned take-up motion 4, when a cellular phone 2 was used, only required die length pulled out the above-mentioned earphone code 3 from the above-mentioned take-up motion 4, and the body 1 of an

earphone was inserted into the hole of a lug.

[0004] Moreover, two codes, a receiver (lug) side and a plug (telephone) side, are respectively made independent, and the thing it enabled it to roll round, respectively is shown in JP,6-81194,U.

[0005]

[Problem(s) to be Solved by the Invention] However, in the above-mentioned conventional earphone code rolling-up type earphone, since both the bodies 1 of an earphone and take-up motions 4 in a bag needed to be looked for by groping, the above-mentioned body 1 of an earphone needed to be pulled out through the earphone code 3 from the above-mentioned take-up motion 4 and the above-mentioned body 1 of an earphone needed to be taken out out of the bag in order to use the cellular phone put in, for example into the bag, there was a fault of being troublesome.

[0006] Moreover, in order to insert the body of an earphone into the hole of a lug, there was strong sense of incongruity.

[0007] This invention removes the above faults.

[0008]

[Means for Solving the Problem] The plug code rolling-up type earphone of this invention is characterized by to consist of the body of an earphone, the loudspeaker section prepared in this body of an earphone, the plug code which connected that end to this loudspeaker section, the plug for cellular-phone connection linked to the other end of this plug code, a take-up motion of the above-mentioned plug code which prepared in the above-mentioned body of an earphone, and a means for making it the above-mentioned body of an earphone located in a part for a handle part.

[0009] A means to make it the above-mentioned body of an earphone located in a part for a handle part is characterized by being the lug credit hook which prepared in the external surface of the above-mentioned body of an earphone.

[0010] Moreover, it is characterized by preparing the microphone section in the above-mentioned body of an earphone.

[0011] It is characterized by forming a message switch in the above-mentioned body of an earphone.

[0012] The above-mentioned body of an earphone is characterized by consisting of the hollow disc-like section which builds in the above-mentioned loudspeaker section and a take-up motion, and the lobe which projects from the periphery of the above-mentioned disc-like section which builds in the above-mentioned microphone section.

[0013]

[Embodiment of the Invention] A drawing explains the example of this invention below.

[0014] In the plug code rolling-up type earphone of this invention, as shown in drawing 1 - drawing 4 , a loudspeaker 8 is formed inside 1 side-face 7a of the body 7 of an

earphone of hollow discoid, and the reel 10 which rolls round the plug code 9 inside side-face 7b besides the above is formed.

[0015] Moreover, a height 11 can be projected from the peripheral face of the above-mentioned body 7 of an earphone to the method of outside, it closes, and a microphone 12 is formed in this height 11.

[0016] Moreover, while forming many detailed holes 13 in the height 11 of one side-face 7a of the above-mentioned body 7 of an earphone, and the above-mentioned body 7 of an earphone, the hook 14 of a semicircle arc for lug credit is fixed to the outside of 1 side-face 7a of the above-mentioned body 7 of an earphone at an above-mentioned height 11 and opposite side.

[0017] In addition, a carbon button for 15 to cancel arrival/dispatch (message) push switch of a cellular phone, and for 16 cancel rolling up of the above-mentioned plug code 9 and 17 are the printed circuit boards which connected with the above-mentioned microphone, the loudspeaker, and the plug code, respectively.

[0018] Since the plug code rolling-up type earphones of this invention are the above configurations In not using a cellular phone 2, it rolls round the plug code 9 by the take up reel 10 of the above-mentioned body 7 of an earphone. In using a cellular phone, while only required die length pulls out the above-mentioned plug code 9 rolled round by the above-mentioned take up reel 10 from the above-mentioned body 7 of an earphone As shown in drawing 5 , a lug is made to pinch by 1 side-face 7a of the above-mentioned body 7 of an earphone, and the above-mentioned lug credit hook 14, and the pendant of the above-mentioned body 7 of an earphone is carried out by the lug.

[0019] Moreover, it considers as the condition of having pulled out the plug code 9 to some extent from the take up reel 10 of the above-mentioned body 7 of an earphone when the cellular phone 2 was being put into the bag, as shown in drawing 6 , and if the lug credit hook 14 is hooked on edges, such as a bag 18, and it fixes, when there is arrival of a cellular phone 2, a lug can be immediately equipped with the above-mentioned body 7 of an earphone.

[0020] In addition, hook 14 may be attached in 1 side-face 7a of the above-mentioned body 7 of an earphone free [ closing motion ] through the springs 19, such as a clip, instead of fixing hook 14 to the above-mentioned body 7 of an earphone like drawing 7 . Furthermore, you may make it make it the above-mentioned body 7 of an earphone located in the shape of a headband, and a head at a part for a handle part using the thing of the shape of a band of the form which carries out suspension instead of using hook 14.

[0021] Moreover, a microphone 11 may be independently formed in the above-mentioned body 7 of an earphone through a connection implement (not shown) instead of forming a microphone 11 in the above-mentioned body 7 of an earphone.

[0022]

[Effect of the Invention] Since according to the plug code rolling-up type earphone of this invention the body of an earphone and a take-up motion are unified and the plug code was rolled round, the earphone code in the former can be omitted and components mark can be reduced.

[0023] Moreover, when the cellular phone is being put in in the bag, the hook of a code rolling-up type earphone can be hooked on the edge of a bag etc.

[0024] Moreover, since the body of an earphone is hooked on a lug and a message is possible, there is no strong sense of incongruity by having inserted into the hole of a lug compared with the conventional earphone, and there are big profits -- the degree of freedom of a design is excellent in increase and fashionability.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the front view of the plug code rolling-up type earphone of this invention.

[Drawing 2] It is the left side view of the plug code rolling-up type earphone of this invention.

[Drawing 3] It is the rear view of the plug code rolling-up type earphone of this invention.

[Drawing 4] It is drawing of longitudinal section of the A-A line of drawing 1 .

[Drawing 5] It is the operating condition explanatory view of the plug code rolling-up type earphone of this invention.

[Drawing 6] It is the operating condition explanatory view of the plug code rolling-up type earphone of this invention.

[Drawing 7] It is the front view of other examples of the plug code rolling-up type earphone of this invention.

[Drawing 8] It is the explanatory view of the conventional earphone code rolling-up type earphone.

[Description of Notations]

1 Body of Earphone

2 Cellular Phone

3 Earphone Code

4 Take-up Motion

5 Plug Code

6 Plug

7 Body of Earphone

7a One side face

- 7b Other side faces
- 8 Loudspeaker
- 9 Plug Code
- 10 Reel
- 11 Height
- 12 Microphone
- 13 Hole
- 14 Hook
- 15 Push Switch
- 16 Carbon Button
- 17 Printed Circuit Board
- 18 Bag
- 19 Spring